

CLAIMS

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is as follows:

- 1 1. A method of filtering a datastream containing
2 transport table sections, said method comprising
3 steps of
4 determining presence of transport table
5 sections in a payload portion of a packet of said
6 datastream from a packet ID field in a header of
7 said packet,
8 filtering a portion of said transport table
9 sections in accordance with a mask which defines a
10 filter function and a logic state of a not match bit
11 to provide a compare result,
12 selecting a next mask and a portion of said
13 transport table sections in accordance with a filter
14 ID, and
15 combining compare result values in accordance
16 with a logic values of not match bits in a not match
17 indication register,
18 whereby an arbitrary length of said transport
19 table sections are filtered by an arbitrary number
20 of filters having arbitrary filter functions.
- 1 2. A method as recited in claim 1, wherein said
2 filter ID is implemented in a control word.

1 3. A method as recited in claim 2, wherein said
2 Filter ID includes a section filter ID and a next
3 filter ID.

1 4. A method as recited in claim 1, wherein said
2 combining step includes ANDing or ORing compare
3 result values of a bit or over a group of bits in
4 accordance with logic values of not match bits
5 corresponding to said bit or group of bits.

1 5. A method as recited in claim 4, wherein said
2 combining step further includes the step of
3 accumulating a matchword over a plurality of
4 blocks of filtered data.

1 6. A method as recited in claim 5, wherein said
2 step of accumulating a matchword is performed by
3 ANDing a current matchword bit with a
4 corresponding bit of a previous matchword if the
5 filtering applied to the current block is positive
6 or mixed filtering, and
7 ORing a current matchword bit with a
8 corresponding bit of a previous matchword if the
9 filtering applied to the current block is negative
10 filtering
11 in accordance with said contents of said not
12 match indication register.

1 7. A method as recited in claim 5, wherein said
2 step of accumulating a matchword is performed in
3 accordance with logic functions specified by at least
4 one extra bit.

5 8. A method of filtering a datastream, said method
6 comprising steps of
7 filtering a portion of said datastream in
8 accordance with a logic state of a not match bit and
9 a Filter ID to provide a compare result, and
10 combining compare result values in accordance
11 with a logic values of not match bits in a not match
12 indication register corresponding to said portion,
13 whereby an arbitrary length of said datastream
14 is filtered by an arbitrary filter function.

1 9. A method as recited in claim 8, wherein said
2 filter ID is implemented in a control word.

1 10. A method as recited in claim 9, wherein said
2 Filter ID includes a section filter ID and a next
3 filter ID.

1 11. A method as recited in claim 8, wherein said
2 combining step includes ANDing or ORing compare
3 result values of a bit or over a group of bits in
4 accordance with logic values of not match bits
5 corresponding to sad bit or group of bits.

1 12. A method as recited in claim 11, wherein said
2 combining step further includes the step of
3 accumulating a matchword over a plurality of
4 blocks of filtered data.

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1 13. A method as recited in claim 12, wherein said
2 step of accumulating a matchword is performed by
3 ANDing a current matchword bit with a
4 corresponding bit of a previous matchword if the
5 filtering applied to the current block is positive
6 or mixed filtering, and
7 ORing a current matchword bit with a
8 corresponding bit of a previous matchword if the
9 filtering applied to the current block is negative
10 filtering
11 in accordance with said contents of said not
12 match indication register.

1 14. A method as recited in claim 12, wherein said
2 step of accumulating a matchword is performed in
3 accordance with logic functions specified by at least
4 one extra bit.